

Abstract of the Disclosure

SYSTEM AND METHOD

FOR

HIDDEN OBJECT REMOVAL

A computer-implemented method is provided for identifying hidden and visible surfaces on an n-dimensional object. An n-dimensional image of an object is generated, the image including a first plurality of n-dimensional components that define a shape and orientation of the image and a plurality of parts located inside the image. An n-dimensional grid of pixels is superimposed on the image. The pixels are arranged in a lattice structure such that each pixel of the grid corresponds to one of a plurality of vertices of an m-sided cell, wherein each side of the m-sided cell includes at least four vertices. A second plurality of n-dimensional components located on an outer perimeter of the image that abut or overlap at least one side of one m-sided cell in the grid is then identified. The second plurality of n-dimensional components constitute the components of the n-dimensional object that are hidden and need not be repeatedly re-rendered.